

PREFACE

The California Strong Motion Instrumentation Program (CSMIP) in the Division of Mines and Geology of the California Department of Conservation promotes and facilitates the improvement of seismic codes and design practices through the Data Interpretation Project. The objective of this project is to increase the understanding of earthquake strong ground shaking and its effects on structures through interpretation and analysis studies of CSMIP and other applicable strong-motion data. The ultimate goal is to accelerate the process by which lessons learned from earthquake data are incorporated into seismic code provisions and seismic design practices.

Since the establishment of CSMIP in the early 1970s, over 750 stations, including 510 ground-response stations, 160 buildings, 20 dams and 60 bridges, have been installed. Significant strong-motion records have been obtained from many of these stations. One of the most important sets of strong-motion records is from the 1994 Northridge earthquake. During this earthquake strong-motion records were obtained from 116 ground-response stations and 77 extensively-instrumented structures. In addition to these records, CSMIP in cooperation with the City of Los Angeles and other agencies, collected and archived accelerograms recorded at over 300 high-rise buildings during the Northridge earthquake. These buildings were instrumented by the building owners as required by the City's Building Code. The strong-motion records from the Northridge earthquake have been and will be the subject of CSMIP data interpretation projects.

The SMIP99 Seminar is the eleventh in a series of annual events designed to transfer recent interpretation findings on strong-motion data to practicing seismic design professionals and earth scientists. The purpose of the Seminar is to increase the utilization of strong-motion data in improving seismic design and practices. In this seminar, investigators of the CSMIP-funded data interpretation projects and invited experts will present the results from their studies on site response studies, vertical ground motion, steel frame buildings, concrete frame buildings, and soil-structure interactions. In addition, there will be presentations on the Consortium of Organizations for Strong-Motion Observation Systems (COSMOS), including mission and objectives of COSMOS, discussion of a common format for data distribution, development of "user-friendly" interfaces, and a virtual strong-motion data center for data dissemination through the Internet. Peter Yanev of EQE International will present a luncheon address on the Turkey Earthquake of 17 August 1999 that claimed more than 15,000 lives.

The papers in this Proceedings volume presented by the investigators of the CSMIP-funded data interpretation projects represent interim results. Following this seminar the investigators will be preparing final reports with their final conclusions. These reports will be more detailed and will update the results presented here. CSMIP will make these reports available after the completion of the studies.

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